**IN THE CLAIMS:**

*Please amend claims 1-36 as follows:*

1. (Currently amended) An apparatus, ~~A position sensor~~ comprising:

a resistive element positionable on a first surface;

a ~~pair of leads~~ first lead and a second lead electrically connected to ~~on~~ the resistive element, the ~~pair of leads adapted~~first lead and the second lead collectively configured to supply a first voltage;

an intermediate lead ~~one~~electrically connected to the resistive element between the ~~pair of leads~~first lead and the second lead, the intermediate lead ~~adapted~~configured to provide a second voltage; and

a contact element positionable on a second surface, the contact element ~~adapted~~configured to contact at least a portion of the resistive element and to detect a voltage at a contact position, the detected voltage being ~~related to~~associated with the position ~~or movement~~ of the second surface relative to the first surface.

2. (Currently amended) ~~A position sensor according to~~The apparatus of claim 1, wherein the detected voltage is provided to a position detector which generates an output signal indicative of the position ~~or movement~~ of the second surface relative to the first surface.

3. (Currently amended) The apparatus of~~A position sensor according to~~ claim 1, further comprising ~~an additional~~ a third lead electrically connected to ~~on~~ the resistive element and adapted to supply the first voltage.

4. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 3, the intermediate lead being a first intermediate leave, the apparatus further comprising a second ~~another~~ intermediate lead electrically connected to ~~on~~ the resistive element between the additional lead and ~~one of the leads of~~a lead from the ~~pair of leads~~first lead and the second lead.

5. (Currently amended) The apparatus of~~A position sensor according to~~ claim 1, wherein the ~~pair of leads~~ first lead and the second lead are electrically connected to ground.

6. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 1, wherein the intermediate lead is connectable to a voltage supply.

7. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 1, further comprising a second resistive element positionable on the first surface.

8. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 7, further comprising a second contact element positionable on the second surface, the second contact element configured to contact ~~and capable of contacting~~ the second resistive element.

9. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 7 ~~wherein the second resistive element comprises~~, further comprising:

a plurality of leads electrically connected to the second resistive element.

10. (Currently amended) ~~A position sensor according to~~ The apparatus of claim 9, wherein the first and second surfaces are movable relative to one another in a first ~~in a~~ direction, ~~and wherein~~ at least one lead electrically connected to ~~from~~ each resistive element being ~~is~~ substantially aligned along the first direction.

11. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 9, wherein the first and second surfaces are movable relative to one another in a first direction, ~~and wherein~~ the plurality of leads electrically connected to each of ~~on~~ the resistive elements ~~are~~ being substantially offset from one another along the first direction.

12. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 1, wherein the resistive element is substantially linear.

13. (Currently amended) ~~A position sensor according to~~ The apparatus of claim 1, wherein the resistive element is at least partially arcuate.

14. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 13, wherein the resistive element is circular.

15. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 1, wherein the contact element comprises a first brush and a second brush, the second brush being offset from the first brush.

16. (Currently amended) An apparatus, ~~A position sensor~~ comprising:

a resistive element positionable on a first surface, the resistive element ~~comprising~~ formed from a first resistive strip and a second resistive strip~~strips~~;

a plurality of leads ~~on~~electrically connected to each resistive strip, each of the plurality of leads configured to provide a voltage to the first resistive strip and the second~~each~~ resistive strip; and

a contact element positionable on a second surface, the contact element ~~adapted~~configured to contact at least a portion of the resistive element and to detect a voltage at a contact position, the detected voltage being ~~related to~~associated with the position ~~or movement~~ of the second surface relative to the first surface.

17. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 16, ~~wherein the first and second resistive strips are separated by~~ further comprising:

an electrical insulator ~~or dielectric~~ disposed between the first resistive strip and the second resistive strip.

18. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 16, wherein the plurality of leads ~~comprises~~ includes a first lead configured~~adapted~~ to provide a first voltage to the first~~a~~ resistive strip and a second lead configured~~adapted~~ to provide a second voltage to the second resistive strip.

19. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 18, wherein the first lead is electrically connected to ground.

20. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 18, further comprising a second resistive element positionable on the first surface.

21. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 20, further comprising a second contact element positionable on the second surface, the second contact element configured to contact ~~and capable of contacting~~ the second resistive element.

22. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 20, wherein the second resistive element ~~comprises~~includes first and second resistive strips.

23. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 16, wherein the resistive element is substantially linear.

24. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 16, wherein the resistive element is at least partially arcuate.

25. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 24, wherein the resistive element is circular.

26. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 16, wherein the contact element ~~comprises~~ includes a first brush and a second brush, the second brush being offset from the first brush.

27. (Currently amended) The apparatus, ~~A position sensor~~ comprising:

a resistive element positionable on a first surface, the resistive element ~~comprising~~formed from a plurality of portions;

a plurality of leads configuredadapted to provide a voltage to each of the plurality of portions of the resistive element;

a contact element positionable on a second surface, the contact element adapted configured to contact the resistive element to detect a voltage at a contact position, the detected voltage being related to associated with a the position or movement of the second surface relative to the first surface; and

a voltage controller configuredadapted to selectively provide a voltage to each of the plurality of portions of the resistive element in relation according to the a position of the contact element relative to the resistive element.

28. (Currently amended) The apparatus of A position sensor according to claim 27, wherein the voltage controller comprises includes a plurality of electrical switches.

29. (Currently amended) The apparatus of A position sensor according to claim 27, wherein the voltage controller is configuredadapted to provide substantially no power to at least one portion of the resistive element for at least a time period.

30. (Currently amended) The apparatus of A position sensor according to claim 27, wherein the voltage controller is configuredadapted to provide power substantially only to the portion of the resistive element being contacted by the contact element.

31. (Currently amended) An apparatus, A position sensor comprising:

a resistive element positionable on a first surface;

a pair of leads electrically connected toon the resistive element, the pair of leads configuredadapted to supply a first voltage;

a contact element positionable on a second surface, the contact element configuredadapted to contact at least a portion of the resistive element and to provide a second voltage to the resistive element; and

an intermediate lead electrically connected toon the resistive element between the pair of leads, the intermediate lead configuredadapted to detect a voltage, the detected voltage being

associated with a ~~related to the~~ position ~~or movement~~ of the second surface relative to the first surface.

32. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 31, wherein the pair of leads are electrically connected to ground~~grounded~~ and the contact element provides a~~the second~~ voltage from a voltage supply.

33. (Currently amended) The apparatus of ~~A position sensor according to~~ claim 31, further comprising a second resistive element positionable on the first surface.

34. (Currently amended) An apparatus, ~~An interface device for interfacing a user with a computer, the computer running an application program and generating a graphical image and a graphical object, the interface device~~ comprising:

a manipulandum ~~user manipulatable object~~ in communication with ~~the~~ a computer, the manipulandum being configured to control a graphical object associated with an application, the application being associated with the computer; and

a sensor having ~~comprising~~ a resistive element on a first surface and a contact element on a second surface, the resistive element being electrically connected to ~~comprising~~ a first plurality of leads configured ~~adapted~~ to provide a first voltage, ~~and~~ the resistive element being electrically connected to a second plurality of leads at locations intermediate to the first plurality of leads ~~adapted~~ configured to provide a second voltage, ~~whereby the~~ the contact element ~~contacts~~being configured to contact at least a portion of the resistive element to detect a voltage at a contact position, the detected voltage being ~~related to~~ associated with a ~~the~~ manipulation of the manipulandum and ~~usable to~~ control of the graphical object.

35. (Currently amended) The apparatus of ~~An interface device according to~~ claim 34, further comprising an actuator adapted to provide a haptic output ~~sensation to the user~~ in relation to an interaction between a~~the~~ graphical image displayed on the computer and the graphical object.

Re cncl'd

36. (Currently amended) The apparatus of ~~An interface device according to~~ claim 34, wherein the detected voltage is ~~further usable~~ configured to control a slave device.